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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,001	11/17/2003	Ching Kun Lai	4459-135	9403

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EXAMINER

QI, ZHI QIANG

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/713,001	Applicant(s) LAI, CHING KUN	
	Examiner Mike Qi	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☒ Claim(s) 2 and 8-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities:

Regarding claim 11, recites "... a forth arc-shaped portion coupled with the first arc-shaped portion, and the second hooked terminal is inserted between the third and first arc-shaped portion and the firth arc-shaped portion." Should be - - ... a fourth arc-shaped portion coupled with the third arc-shaped portion, and the second hooked terminal is inserted between the third arc-shaped portion and the fourth arc-shaped portion.- -

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, in claim 7, "...the terminal of the first protrusion is back to the terminal of the second protrusion" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art (AAPA).

Regarding claims 1 and 7, AAPA discloses (paragraph 0004- 0006; Figs. 1 and 3) that a liquid crystal display device comprising:

- liquid crystal panel (102);
- housing (304) disposed under the liquid crystal panel (102) having recesses (such as 502) and protrusion area;

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- frame (302) coupled to the housing 9304) and having display window; the frame (302) having L-shaped aperture and protrusion (504);
- the protrusion (504) is bent into the recesses (such as 502) so as to engage the frame (302) and the housing (304).

Although AAPA does not explicitly disclose that the frame having at least a pair of L-shaped aperture and having first and second protrusions, and the first protrusion is bent into a first recess and the second protrusion is bent into a second recess.

However, the Fig.3 of AAPA shows a principle of using engaging protrusion (504) of the frame (302) with a recess (502) of the housing (304), and such engaging means is formed nearby the corner of the assembly, so that the engaging means cannot be only one protrusion and recess in a corner portion of the assembly. Because the frame and the housing have four side-walls, and every side-wall (every corner portion) would have the engaging means as shown in the Fig.3. Such that the device would have at least a pair of the L-shaped apertures and each L-shaped aperture having a protrusion, and the protrusion is bent into the corresponding recess, so that the frame and the housing would be firmly assembled together. Such protrusions as shown in the Fig.3 have arm connecting to the frame (302) and a terminal (the terminal of the protrusion 504), and such terminals would be formed back to back.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to modify the frame having L-shaped aperture of AAPA, and being motivated into such frame having at least a pair of L-shaped aperture in order to assembly the frame and the housing firmly, since the engaging means such as to bent

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the protrusion into the recess cannot be only one, and the housing having four side-walls, so that each wall having a pair of the engagement means would firmly hold the frame and the housing.

Regarding claims 3 and 4, AAPA discloses (paragraph 0006; fig.3) that the frame (302) is made of metal; and the housing (304) is made of plastic.

5. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA as applied to claims 1, 3-4 and 7 above, and further in view of US 6,339,457 B1 (Won).

Regarding claims 5-6, AAPA teaches the invention set forth above. AAPA lacks that the terminals of the protrusions are formed face to face to form a T-shaped aperture.

Won discloses (col.3, lines 60-65; Fig.2) that the engaging unit includes hooking wings (58) (functions as the protrusions and having arms connecting to the side-walls) formed in the side-walls (such as 50b, 50c), and the terminals of the protrusions are formed face to face, so as to form T-shaped aperture. Won discloses col.3, lines 62-65) that such engaging unit in which the hooking wing (58) (functions as the protrusion) is fixed by manufacture toward the inside (bent) to prevent the movement of the fame (40) (functions as the housing).

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to modify the frame and the housing engaging means of a liquid crystal display of AAPA with forming T-shaped aperture such as the terminals of the protrusions face to face as taught by Won, and being motivated for preventing the

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movement of the housing, and such formed protrusions would be benefited from Won to design such T-shaped aperture arrangement in order to firmly and tightly assemble the device.

Allowable Subject Matter

6. Claims 2, 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record neither discloses nor teaches that a liquid crystal display device comprises various elements as claimed, more specifically, as the following:

the protrusion area (between the first and second recesses) is a trapezoid area [claim 2, as shown in Fig.8 and Fig.6];

the ground metal sheet of the printed circuit board has first and second terminal portions wherein the first terminal portion contact with the printed circuit board, and the second terminal portion is disposed above one of the first recess and second recess and the protrusion area [claim 8, as shown in Fig.14 and Fig.15];

the first protrusion has a first hooked terminal and second protrusion has a second hooked terminal; and the first hooked terminal is inserted between the first and the second arc-shaped portion of the arc-shaped recess; and second hooked terminal is

inserted between the third and the fourth arc-shaped portion of the arc-shaped recess [claims 9-11, as shown in Fig.11 and Fig.12].

The closest references such as AAPA and Won disclose that a frame and a housing engaging arrangement. However, the prior art of record fail to disclose a protrusion area between recess of the housing is a trapezoid area as claimed in claims 2 as shown in Figs 6 and 8; and printed circuit board has ground metal sheet having first and second terminal portion and the second terminal portion is disposed above one of the first recess and the second recess and the protrusion area as claimed in claim 8 as shown in Figs14 and 15; and the protrusions of the frame have hooked terminals and arc-shaped recesses as claimed in claims 9-11 as shown in Figs10-12.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299.


The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Qi
Patent Examiner


ANDREW SCHECHTE
PRIMARY EXAMINER